Claim Listing:

1.   A method of producing a superabsorbent polymer product for use in agricultural applications, comprising:

providing grafting reactants and a starch;

graft polymerizing the grafting reactants onto the starch to form a starch graft copolymer;

saponifying the starch graft copolymer;

precipitating the saponified starch graft copolymer; and

granularizing the precipitated starch graft copolymer to form particles of superabsorbent polymer product.

2.   The method of claim 1, wherein the grafting reactants include an initiator and an acrylonitrile.

3.   The method of claim 2, wherein the grafting reactants further include a chemical selected from the group consisting essentially of acrylic acid, acrylamide, and 2-acrylonitrile-2-methyl-propanesulfonic acid.

4.   The method of claim 2, wherein the starch and the acrylonitrile are present in a weight ratio of between about 1:2 and about 1:5.

5.   The method of claim 2, wherein the initiator is a cerium salt.

6.   The method of claim 2, wherein the initiator is ceric ammonium nitrate.

7.   The method of claim 1, wherein the starch is selected from a group consisting essentially of pure starches, flours, and meals.

8.   The method of claim 1, wherein the starch is a gelatinized starch.

9.   The method of claim 1, wherein the starch is cornstarch.

10.   The method of claim 1, wherein the particles have a particle size that is about 200 mesh or less.

11.   The method of claim 10, wherein the particle size is between about 5 mesh and about 50 mesh.

12.   The method of claim 10, wherein the particle size is between about 8 mesh and about 25 mesh.

13.   The method of claim 1, wherein precipitating the saponified starch graft copolymer involves mixing an alcohol with the saponified starch graft copolymer.

14.   The method of claim 13, wherein the alcohol is selected from the group consisting essentially of methanol, ethanol, propanol, and isopropanol.

Claims 15 – 19   (canceled)

20.   A superabsorbent polymer product for use in agricultural applications made in accordance with the method of claim 1.